# TOC, Critical Chain, DevOps And My Learning Since 2005

Yoav Ziv, Head of Amdocs Testing Services

September 7, 2017

*PRESENT:* BUILDING ON SUCCESS 2017

BREAKTHROUGH RESULTS FOR GOVERNMENT AND BUSINESS

GOMB | goldratt CONSULTING

# Agenda

1. Amdocs @ a Glance
2. Time Travel To 2006
3. DevOps – The Enterprise Grade Issue
4. It All Comes Together
5. The Role Of Testing In The Journey


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# Amdocs @ A Glance

**Market leader** in customer experience solutions

**$3.7 billion** revenue in 2016

Global company with **25,000+** professionals

Serving 300+ customers in more than **90 countries**

**Unmatched** project success in over 2,500 projects to date

**Broadband Technology Report Diamond award**

**Asia Pacific OSS/BSS vendor of the year**

**Most innovative technology provider**

Pipeline INNOVATION AWARD WINNER 2016

**Leader in integrated revenue and customer management**

Gartner



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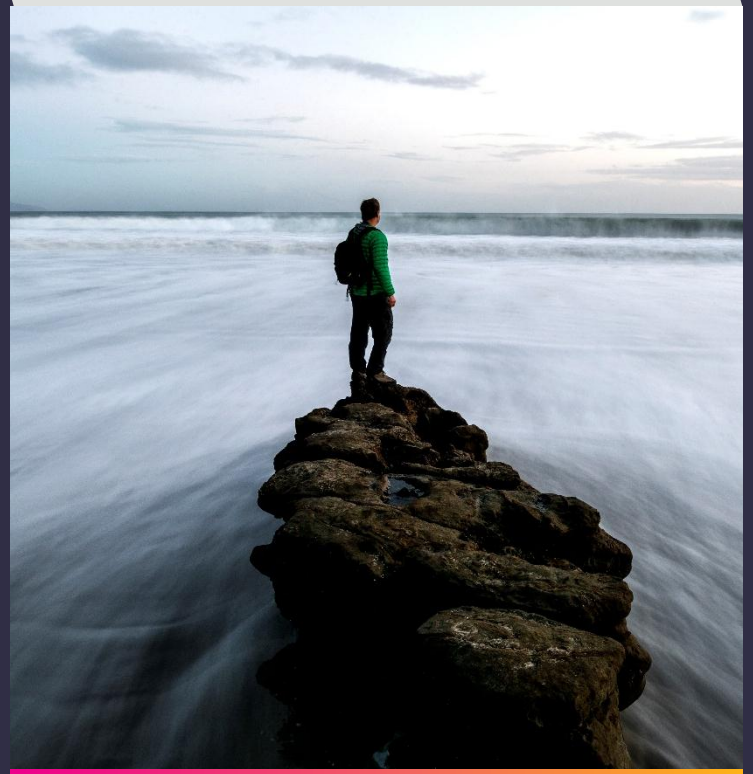
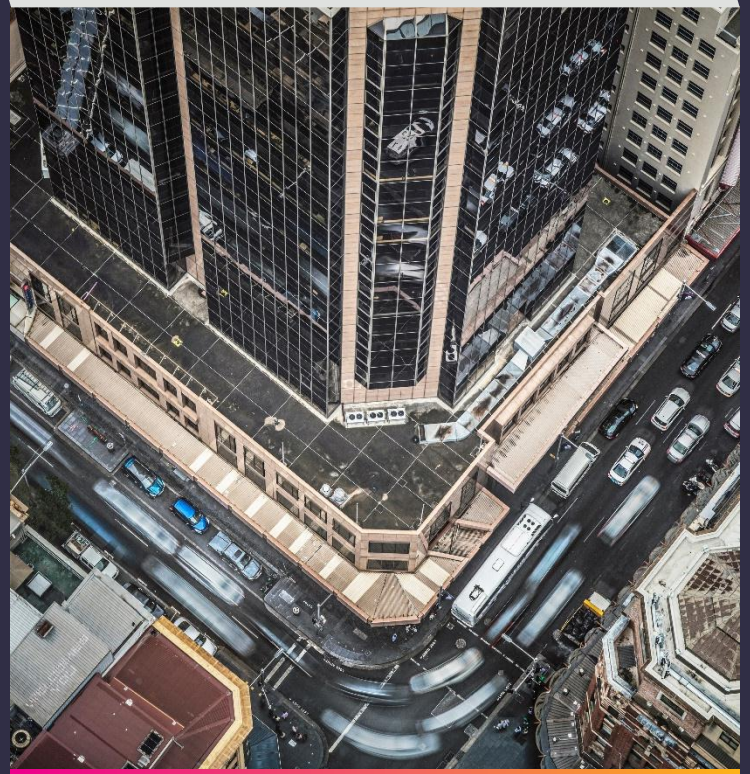
# Our Customer's Challenge

## Raise the bar



## Complex operating environment





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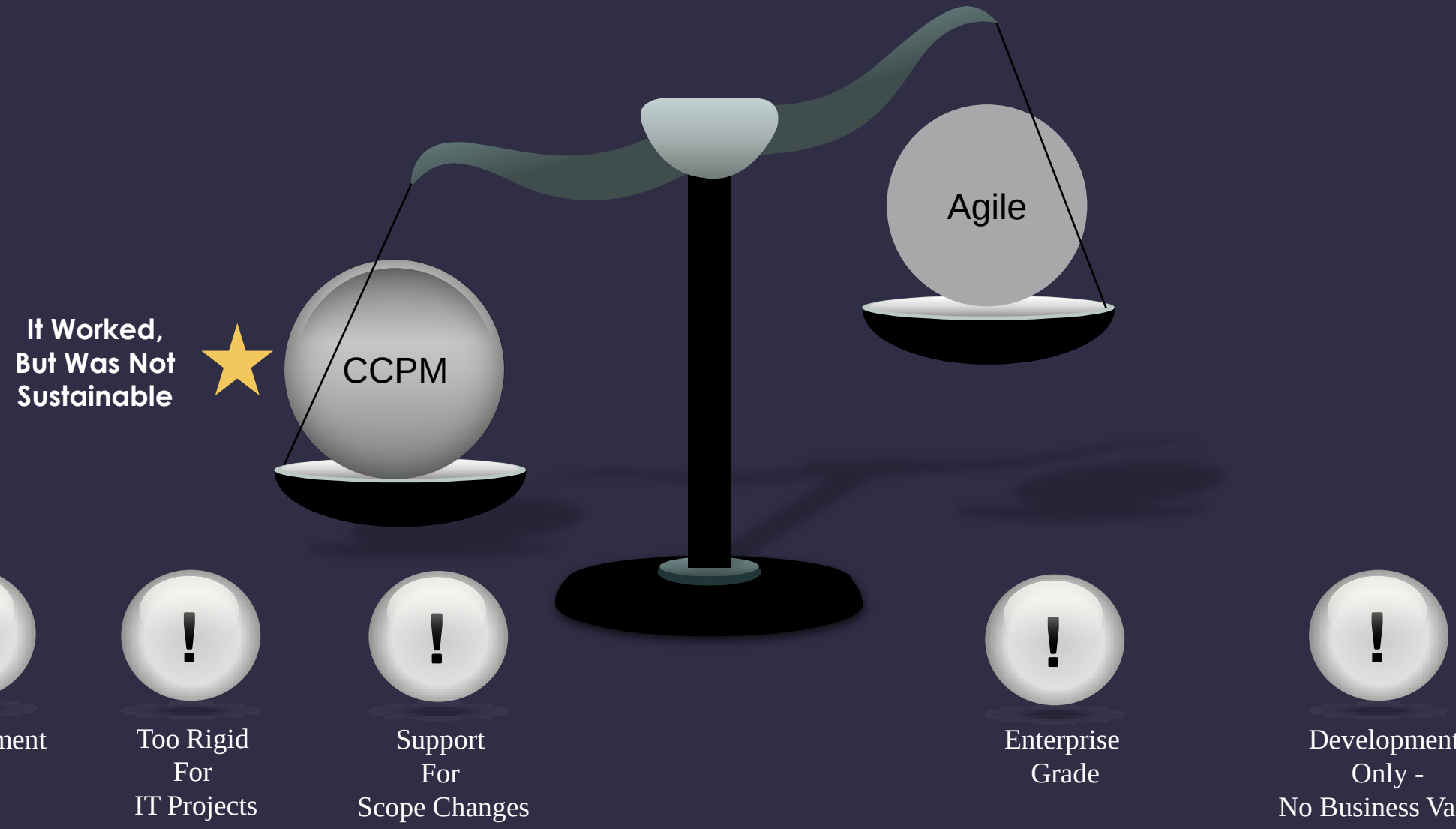
# Time Travel 2006 - How To Solve The Synchronization Issue?



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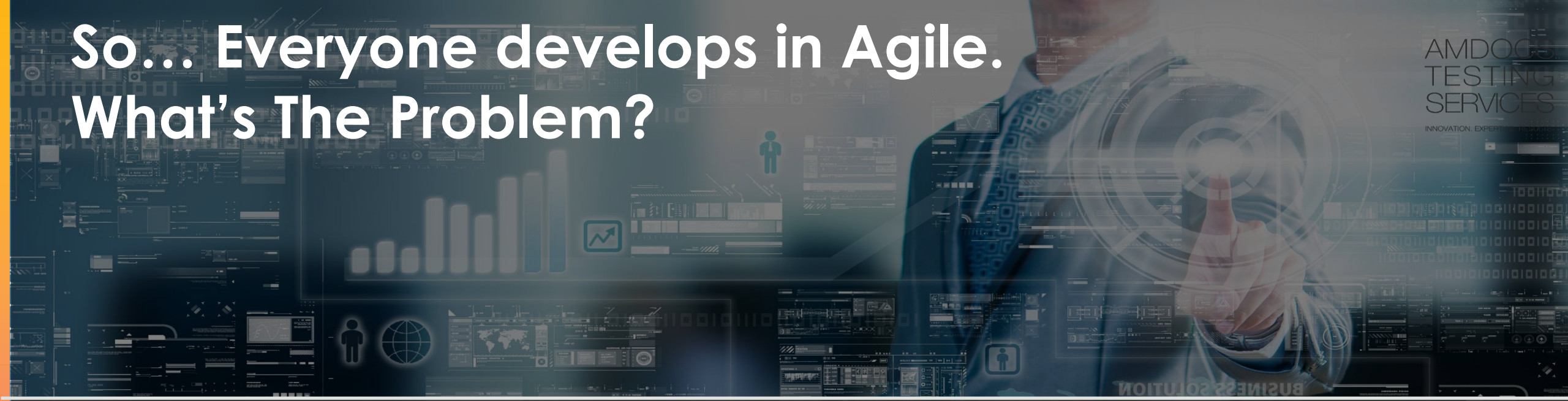
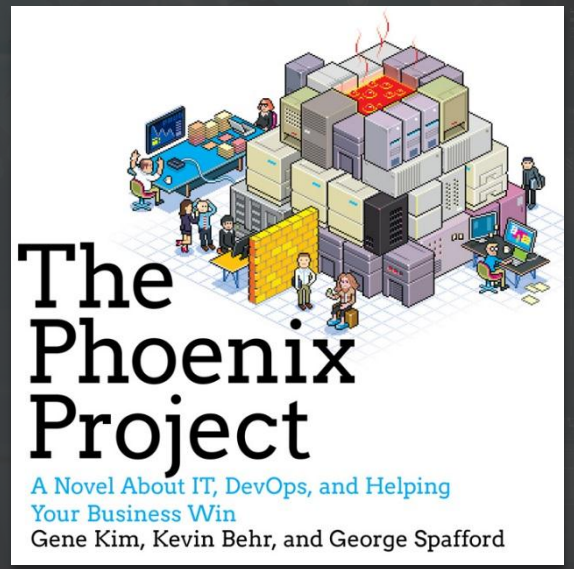
# So… Everyone develops in Agile. What's The Problem?




"Until **code** is in **production**, no **value** is actually being generated, because it's merely **WIP** stuck in the system"



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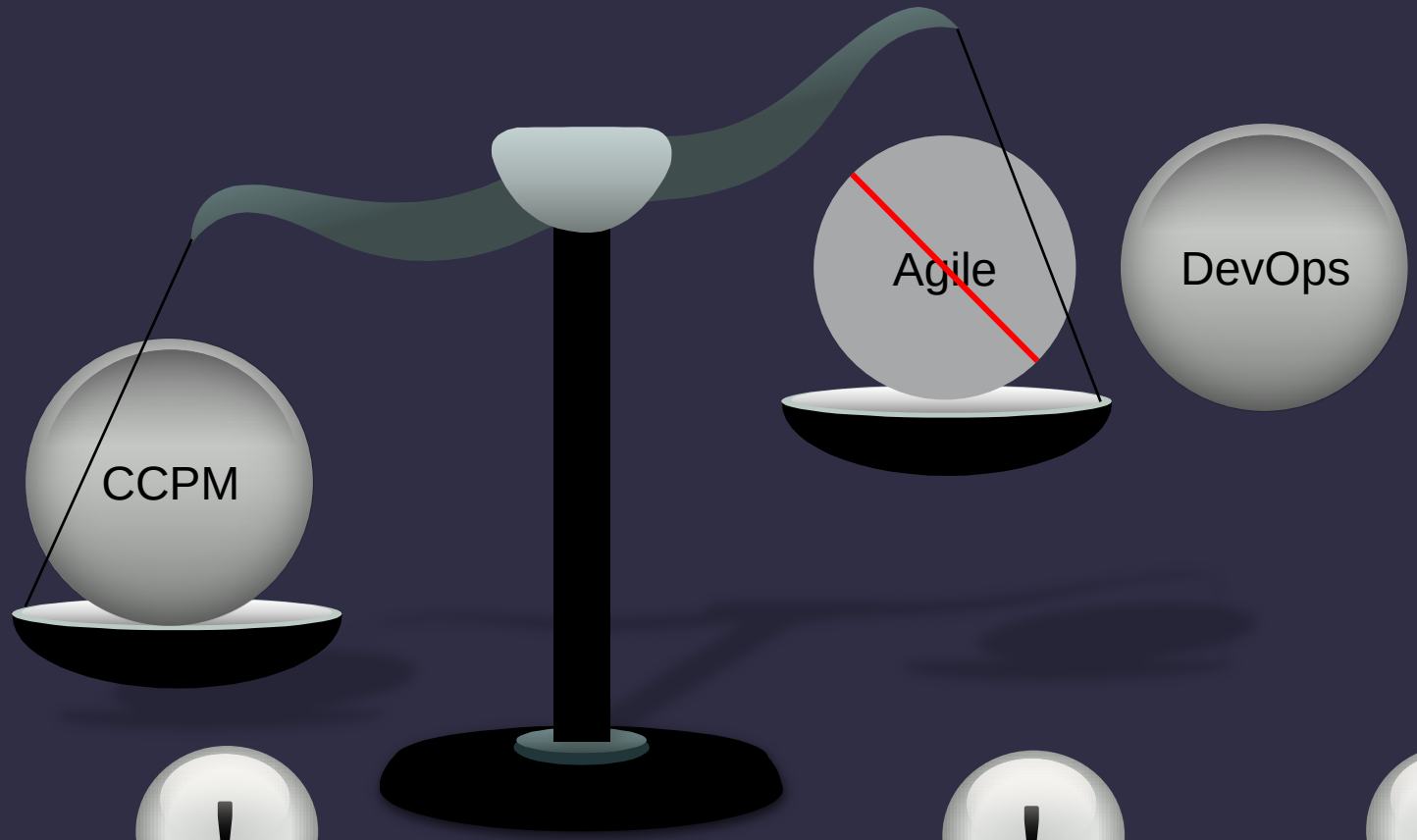
# 2017 - How To Solve The Synchronization Issue?




Empowerment

Too Rigid For IT Projects

Support For Scope Changes

Enterprise Grade

Development Only - No Business Value



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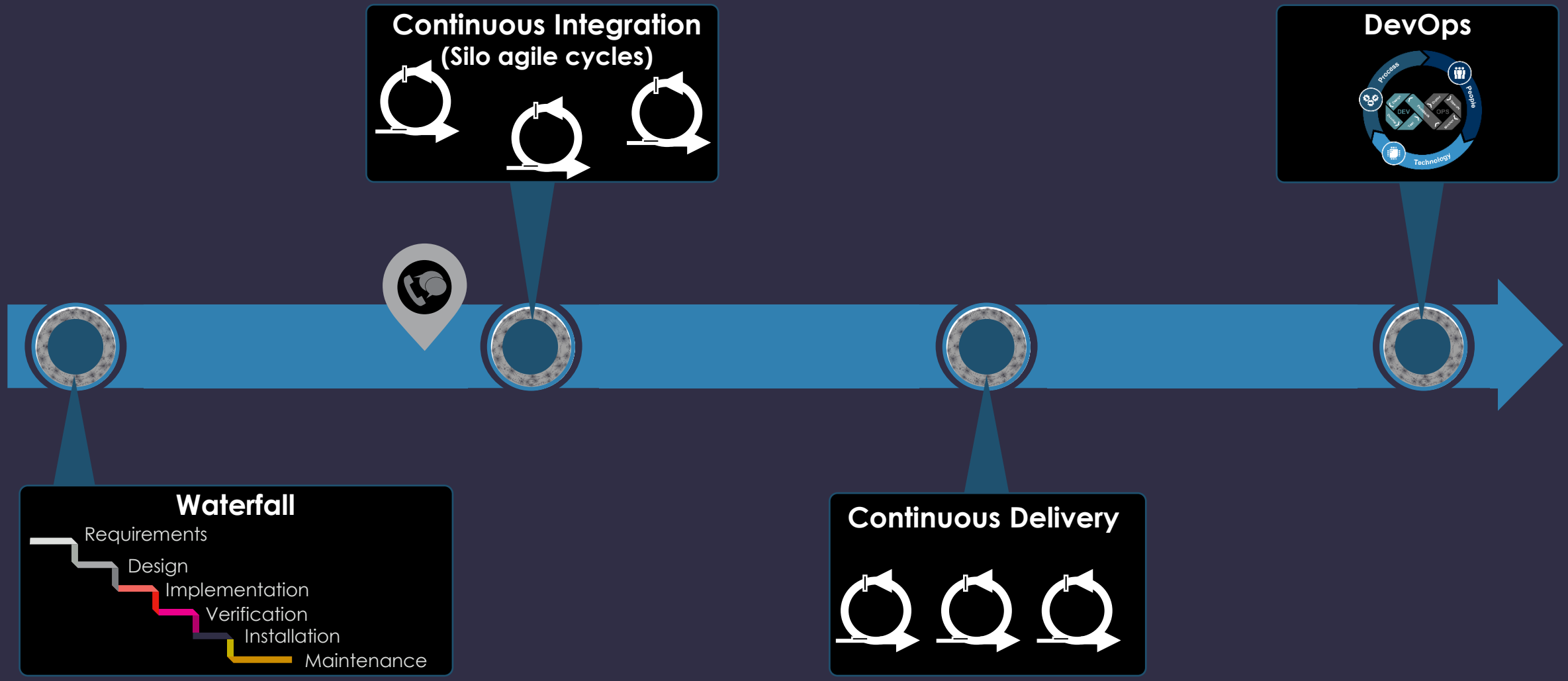
# DevOps Journey

The Problem Remains – Enterprise (Carrier) Grade

AMDOCS TESTING SERVICES
INNOVATION. EXPERTISE. RESULTS.



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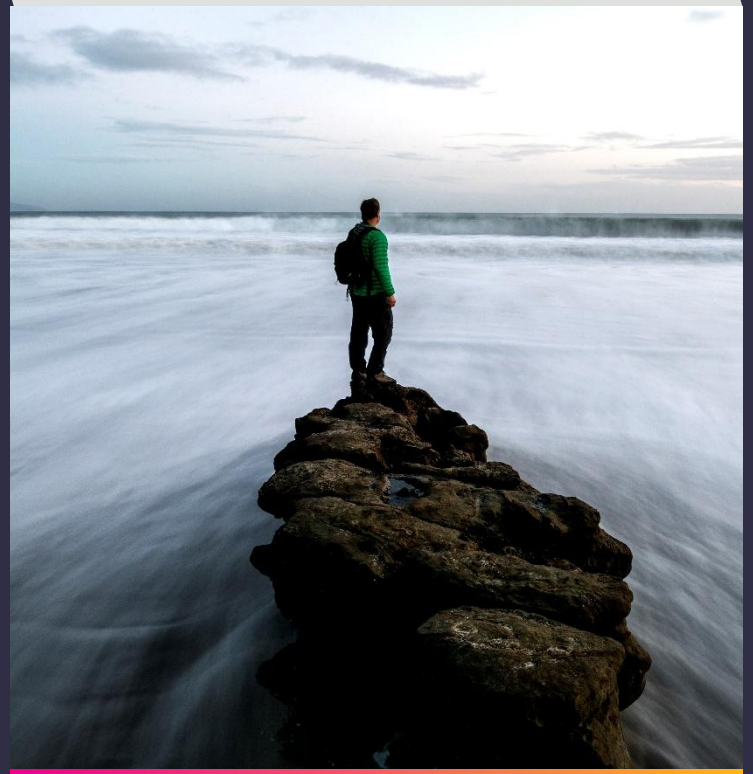
# The Challenge

## Raise the bar



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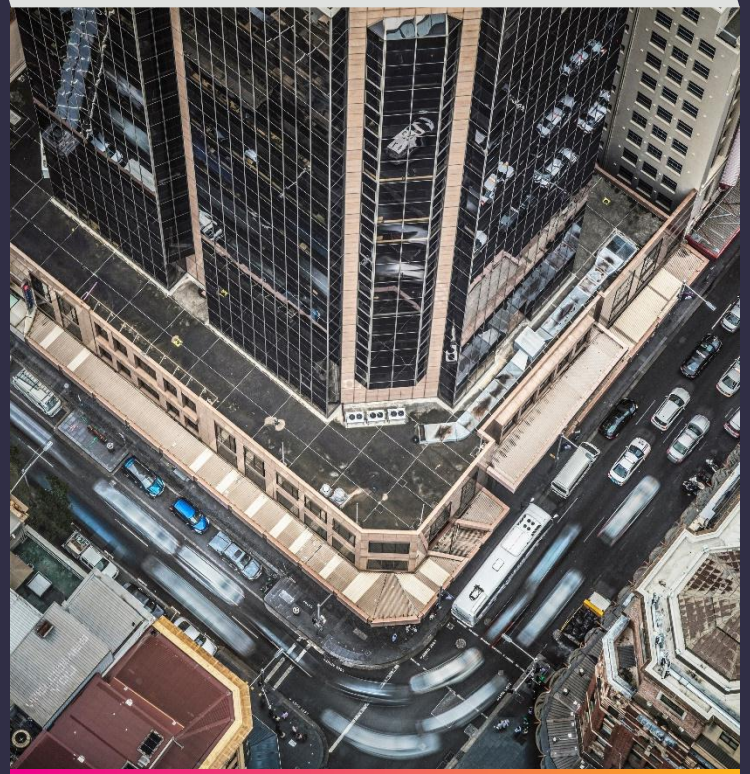
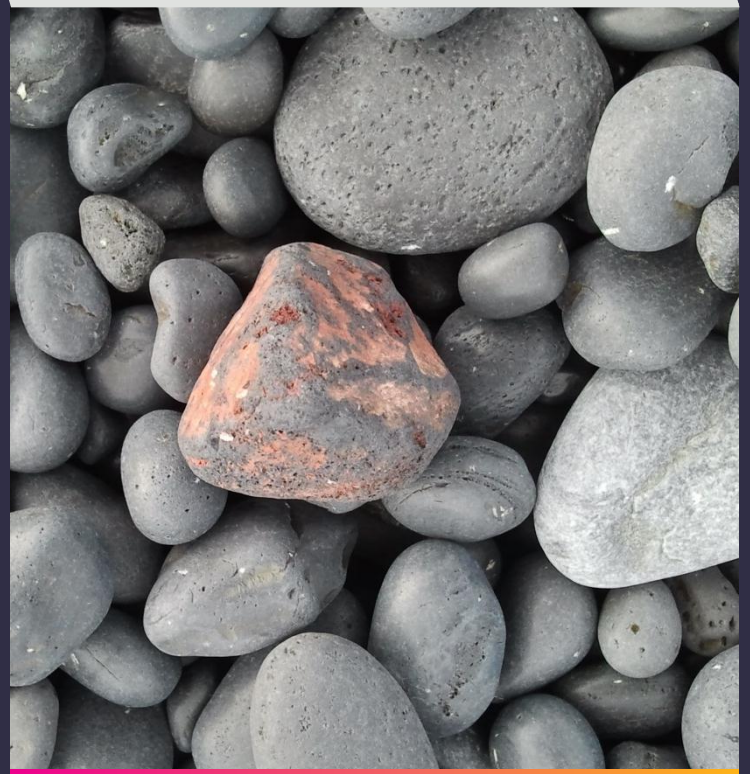


## Standard DevOps does not apply





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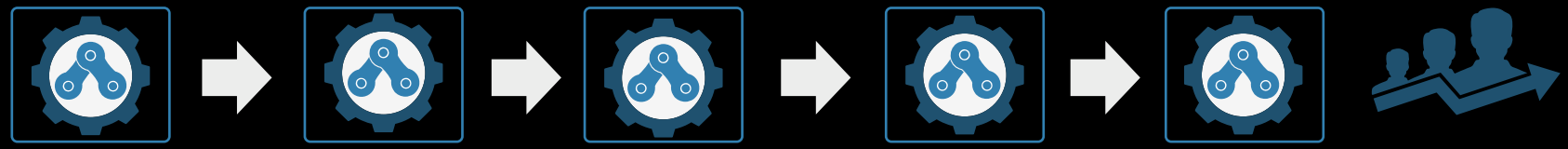
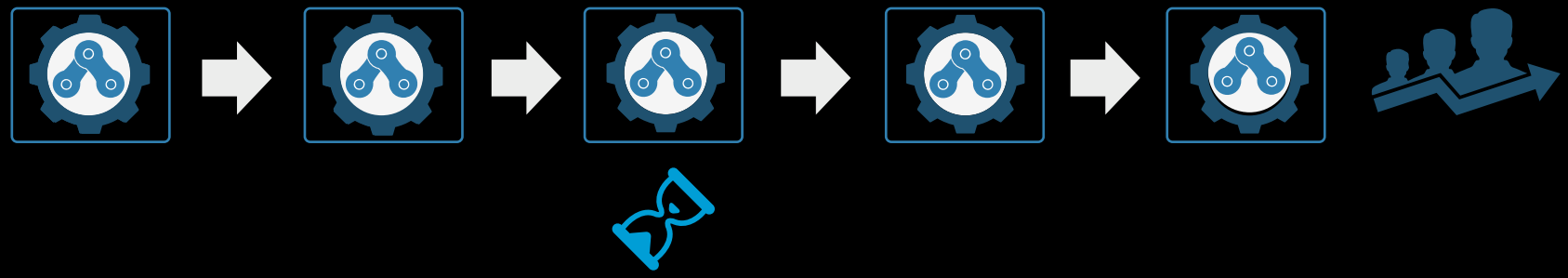
# What is DevOps
## (And Why Testing Is So Important In The Journey)?

Provide the **RIGHT** value to the market **ASAP**

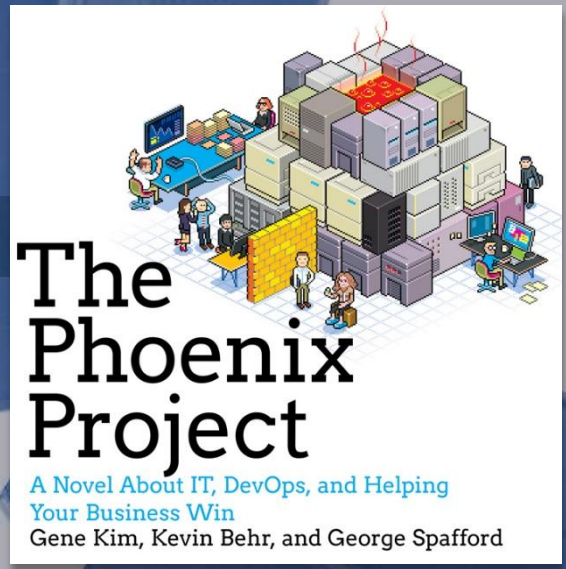
**Basic Assembly Line – Single Piece Flow**



**DevOps – Maintain Single Piece Flow**



**Enterprise DevOps – Synchronized Single Piece Flow**



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# What Is The Unit That Flows Through?
## How To Define What's Valuable?

Development and Testing as **Waterfall**

Then We Moved To **Agile**

*But If We Want To Achieve This*

**Then Each Development Iteration Needs To Create Something One Can Actually Test & Deploy**

MTV – Minimal Testable Value



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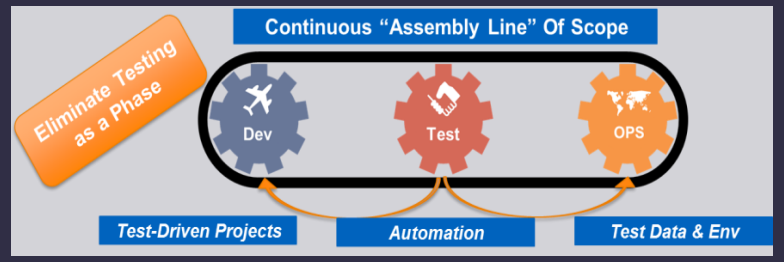
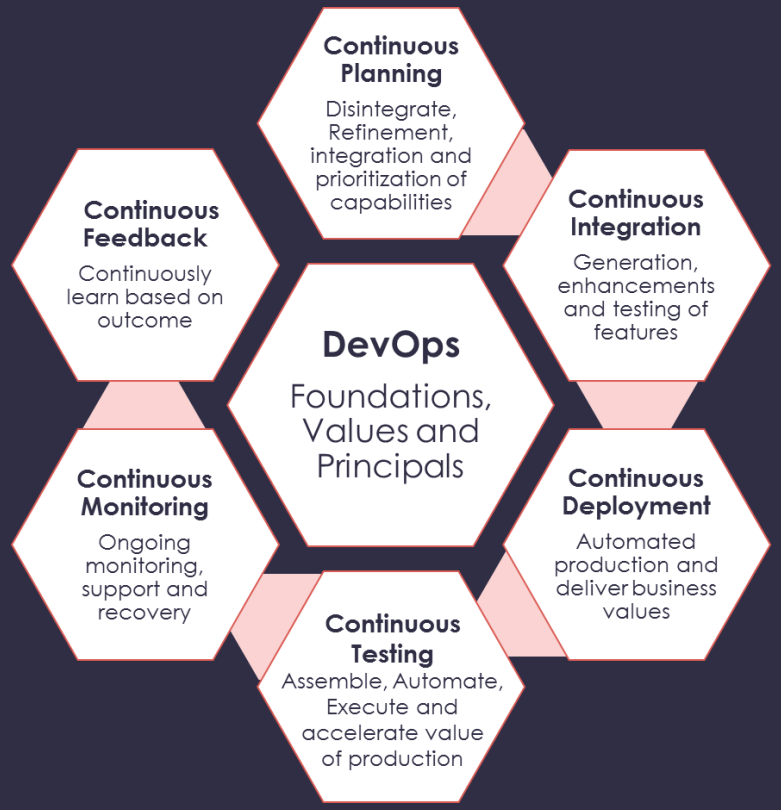
# Amdocs DevOps DevOps Machine

We take an Innovative, practical approach to turn your release engine into a continuous feature assembly line

Continuous Feature (MTVs) Assembly Lines




Synchronized Across Systems / Vendors / Generations




Accelerated Through:

- Automation
- Virtualization
- Micro Services Transformation



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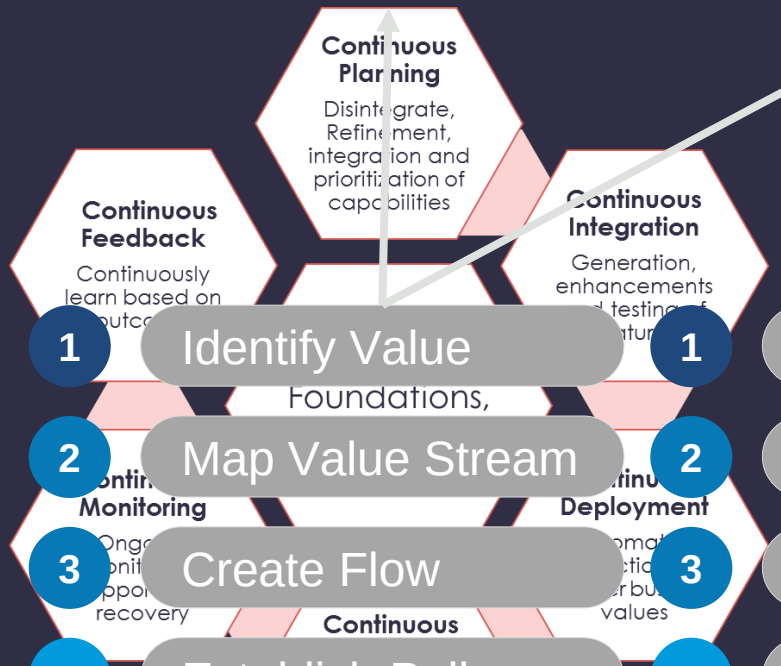
# It All Comes Together: DevOps, Lean, TOC

Continuous **MTV** Assembly Lines

Synchronized Across Systems / Vendors / Generations

Ever Accelerated Through:




1. Identify Value
2. Map Value Stream
3. Create Flow
4. Establish Pull
5. Seek Perfection

Foundations,

1. Identify
2. Exploit
3. Subordinate
4. Elevate
5. Start Over

1. Transport
2. Inventory
3. Motion
4. Waiting
5. Over-Processing
6. Over-Production
7. Defects

Automation

Virtualization

Micro Services Transformation



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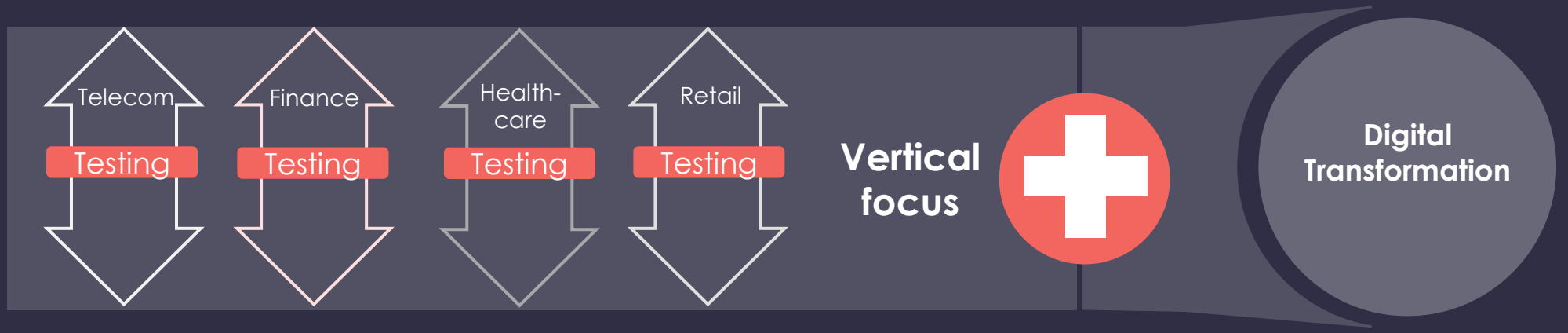
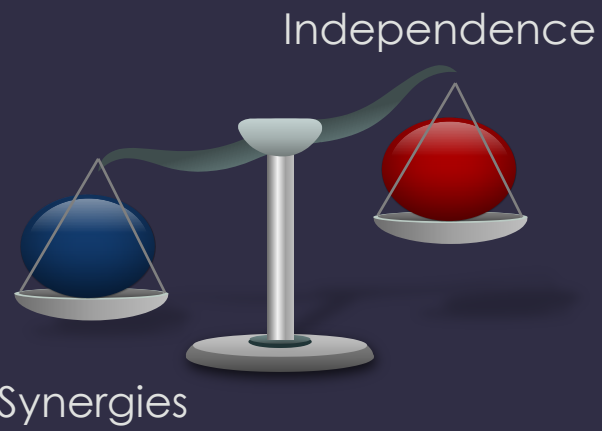
# The Role Of Testing In The Journey




- Future-looking
- Innovation
- Data analysis
- Methodology
- Benchmark
- Design tools
- Expertise
- Automation



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# Innovative Technological Tools

## Automating the entire testing lifecycle

### Amdocs BEAT™—automated E2E testing during development

Analytics for quality, speed and efficiency, dev and test metrics

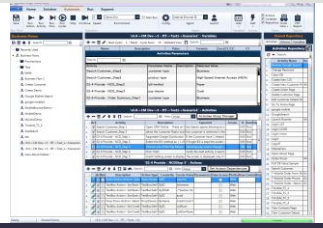
**Amdocs BEAT™ Analytics**

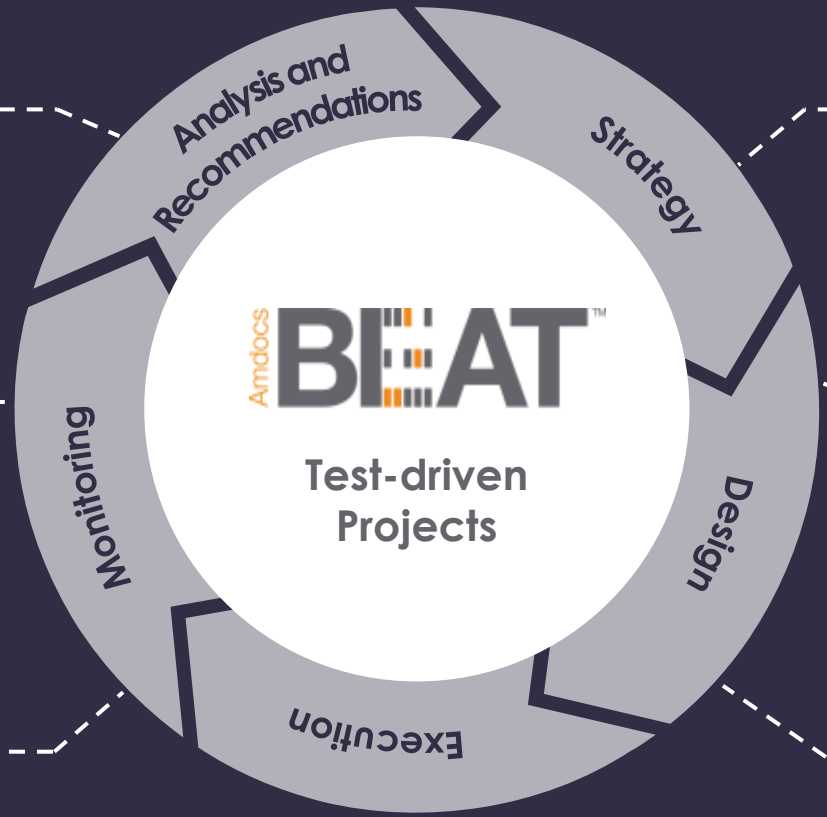
Immediate feedback; real-time test status

**Mobile Reports**

DevOps automation console: requires no coding knowledge

**Automation Console**

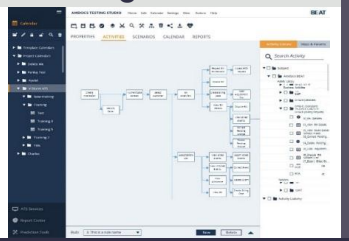





**Amdocs BEAT™ Manage**

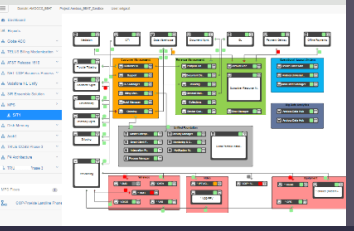
Methodology-driven, cross-site project management

**Design Console**



Business flow creation broken into testable units

**A-TEAM**



Dynamic environment configuration and management



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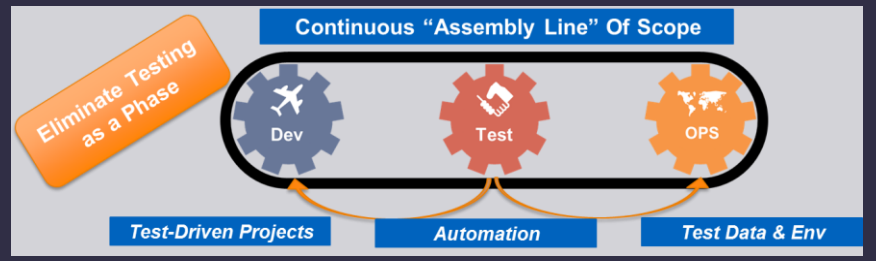
# Test-Driven-Projects: Enabling The Assembly Line

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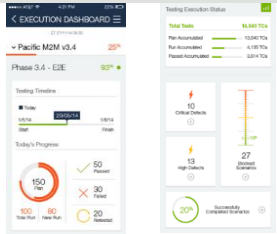
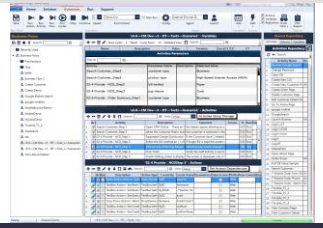
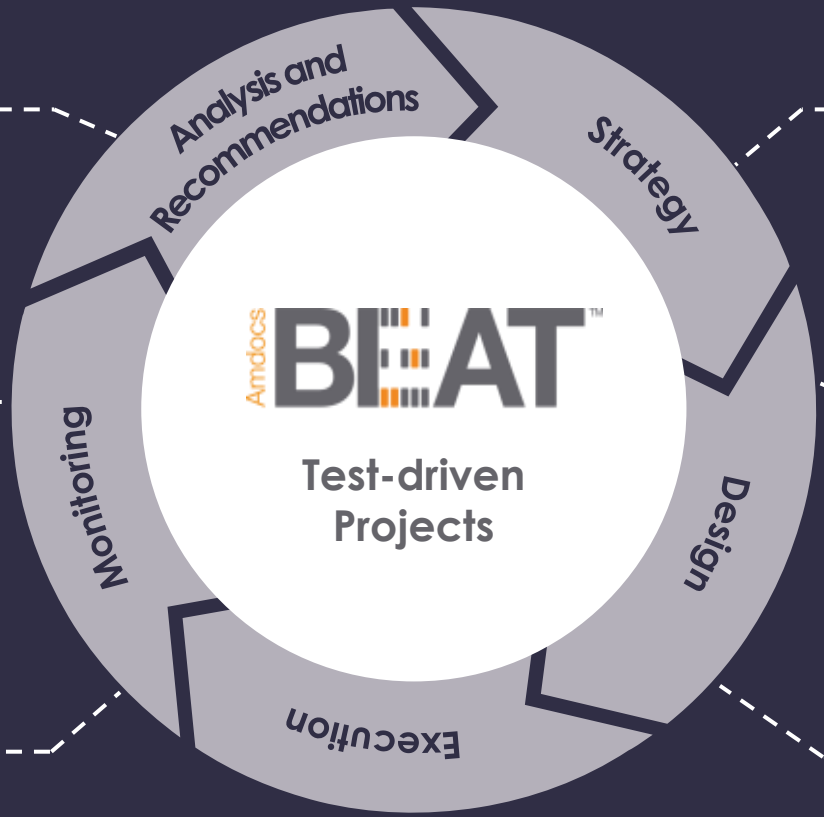


DevOps automation console: requires no coding knowledge

**Automation Console**



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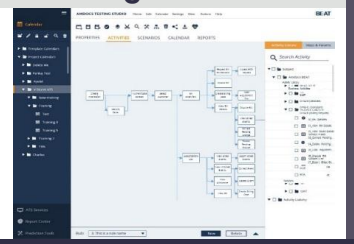

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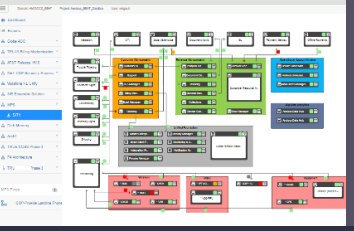

Dynamic environment configuration and management



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# Demo

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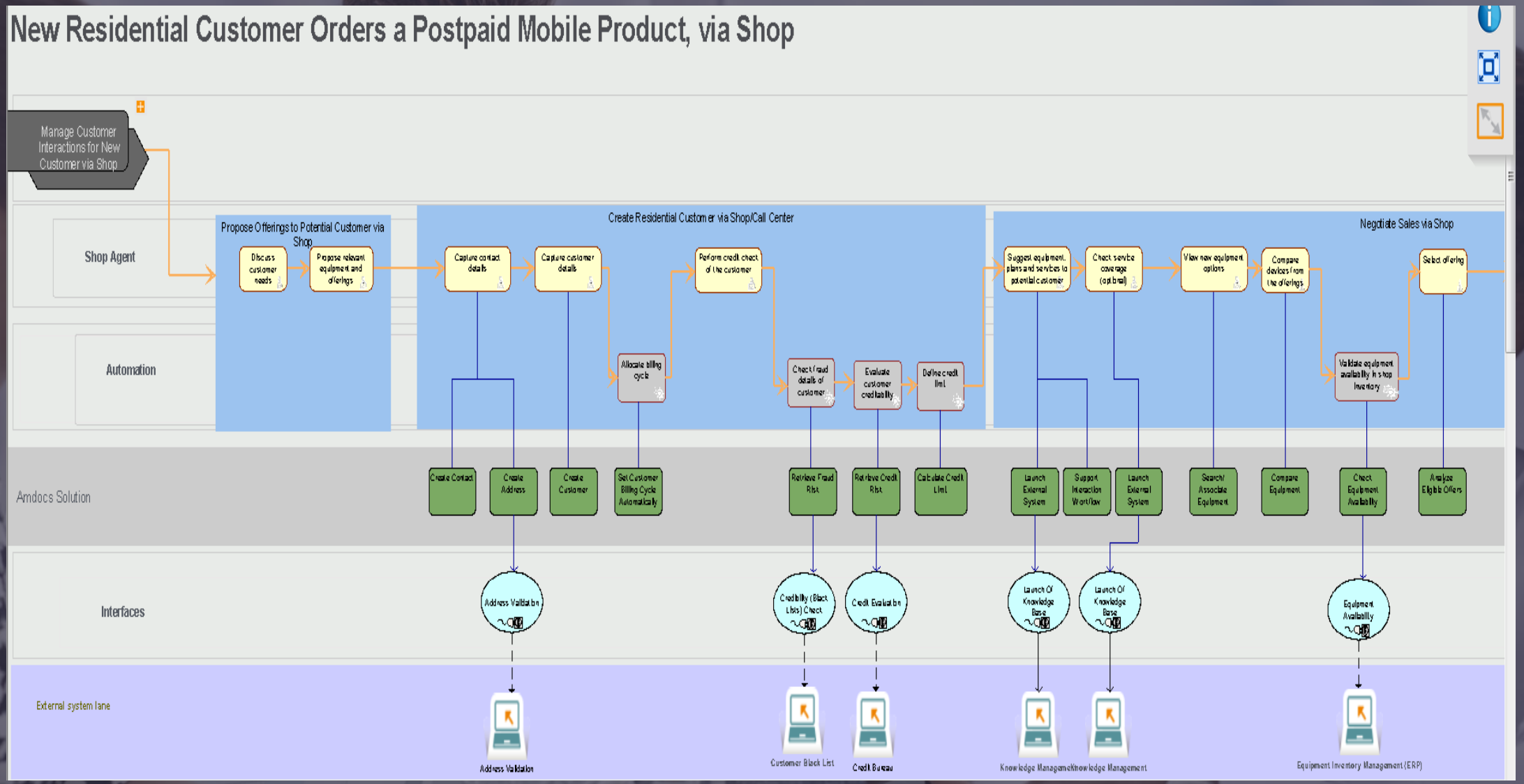
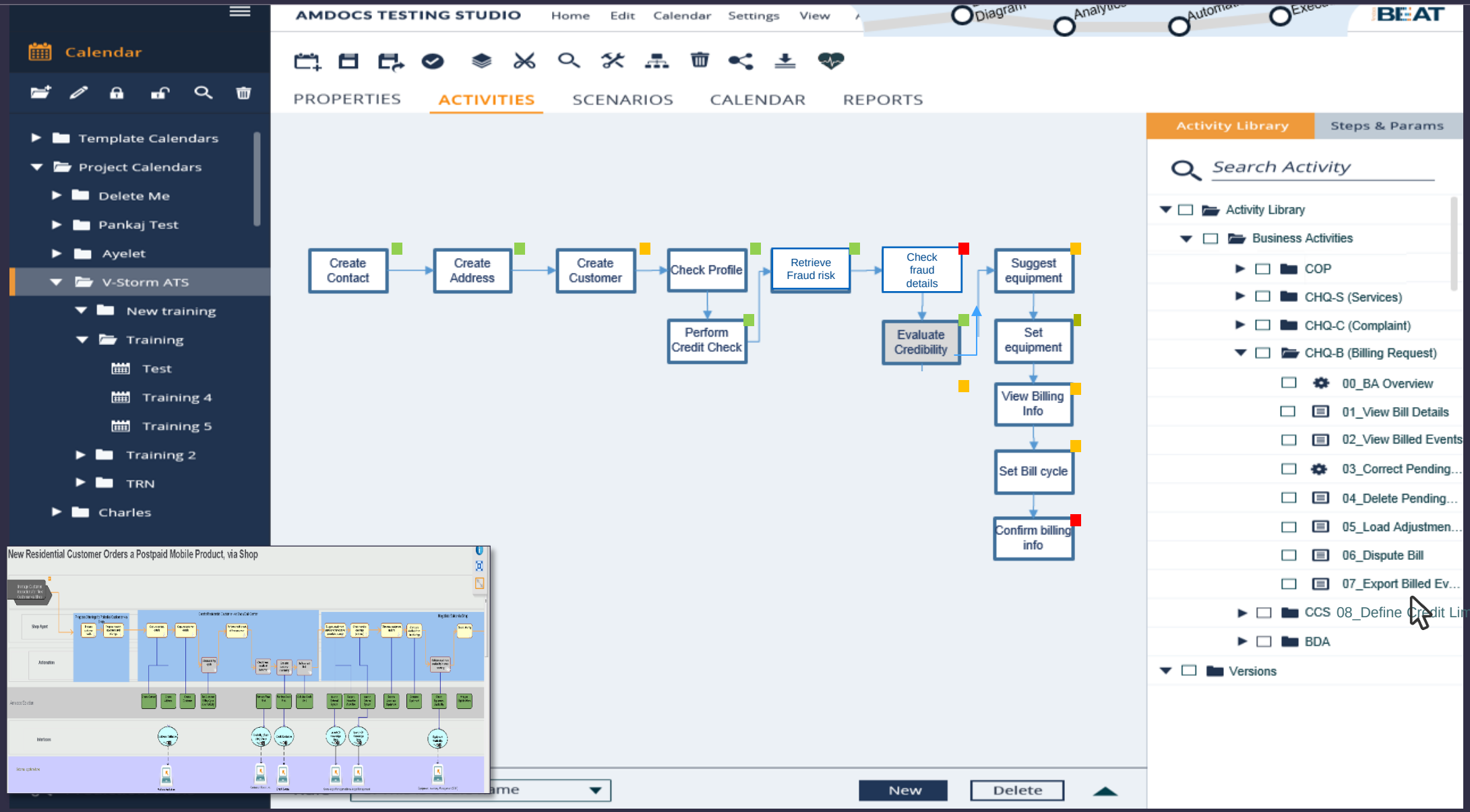

New Residential Customer Orders a Postpaid Mobile Product, via Shop
Manage Customer Interactions for New Customer via Shop
Shop Agent
Automation
Amdocs Solution
Interfaces
External system lane
Propose Offerings to Potential Customer via Shop
Discuss customer needs
Propose relevant equipment and offerings
Create Residential Customer via Shop/Call Center
Capture contact details
Capture customer details
Allocate billing cycle
Perform credit check of the customer
Check fraud details of customer
Evaluate customer creditability
Define credit limit
Negotiate Sales via Shop
Suggest equipment, plans and services to potential customer
Check service coverage (optional)
View new equipment options
Compare devices from the offerings
Validate equipment availability in shop inventory
Select offering
Create Contact
Create Address
Create Customer
Set Customer Billing Cycle Automatically
Retrieve Fraud Risk
Retrieve Credit Risk
Calculate Credit Limit
Launch External System
Support Interaction Workflow
Launch External System
Search/ Associate Equipment
Compare Equipment
Check Equipment Availability
Analyze Eligible Offers
Address Validation
Credibility (Black Lists) Check
Credit Evaluation
Launch Of Knowledge Base
Launch Of Knowledge Base
Equipment Availability
Address Validation
Customer Black List
Credit Bureau
Knowledge ManagemeKnowledge Management
Equipment Inventory Management (ERP)



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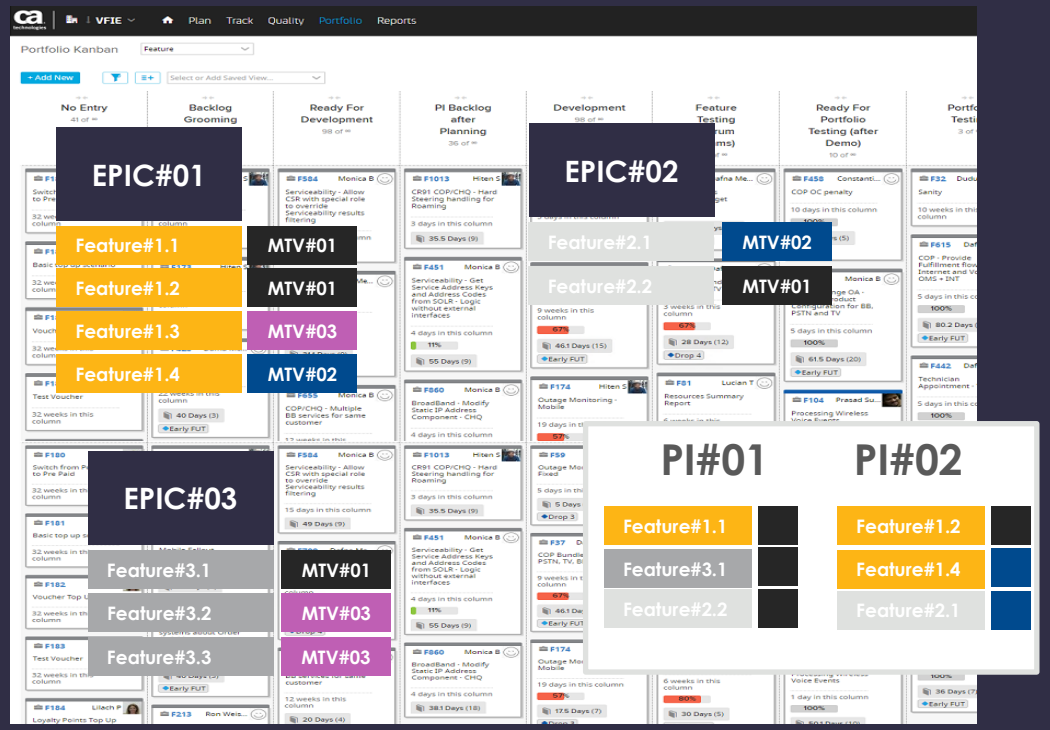
# 1. CRs submitted to dev & test

# 2. Dev define in Rally EPICs & features



# 3. Test link MTVs from BEAT to features in Rally

# 4. Dev prioritize PIs targeting MTV's delivery



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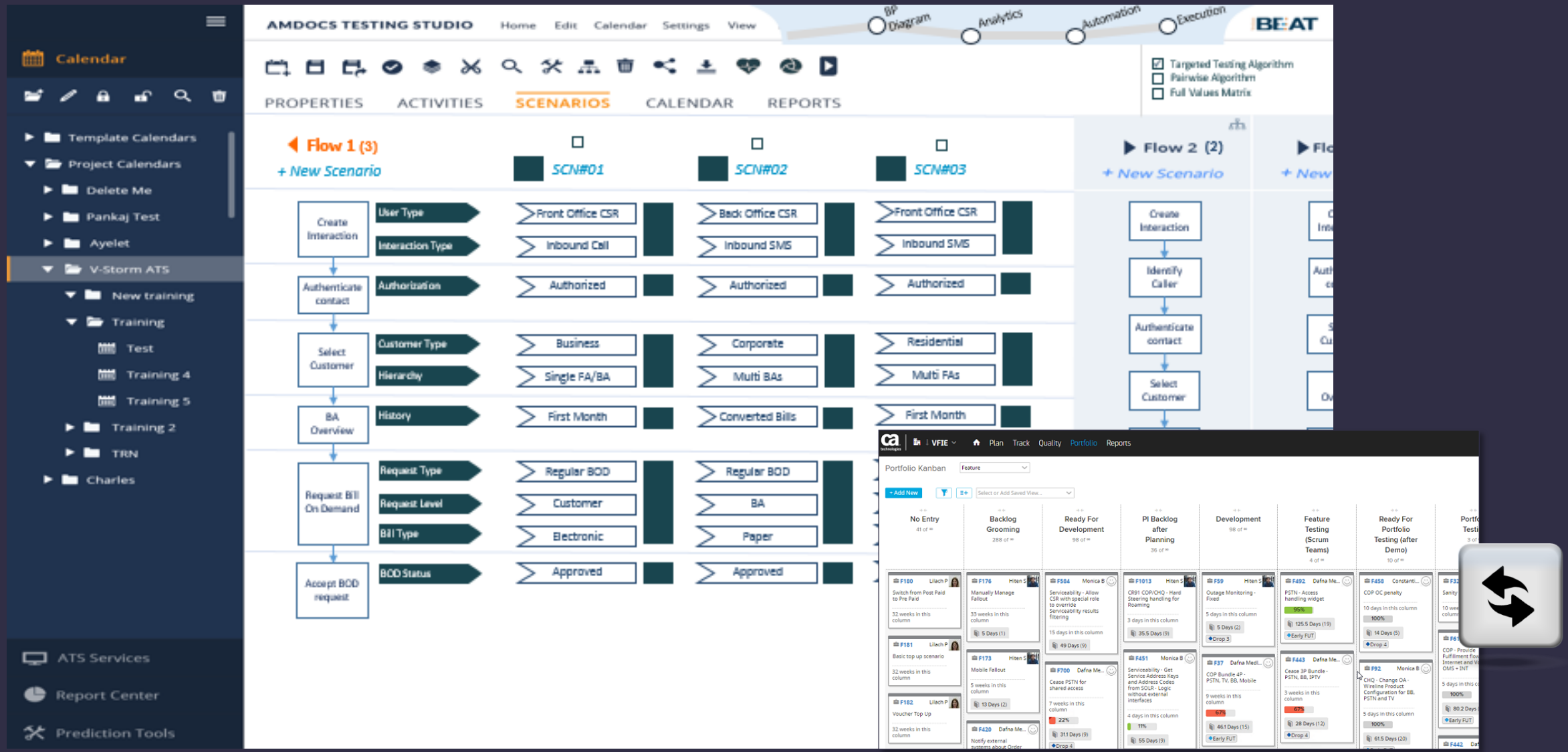
Scoping **Design** Develop Ginger automation (during dev) Recompile E2E flow Execute E2E test



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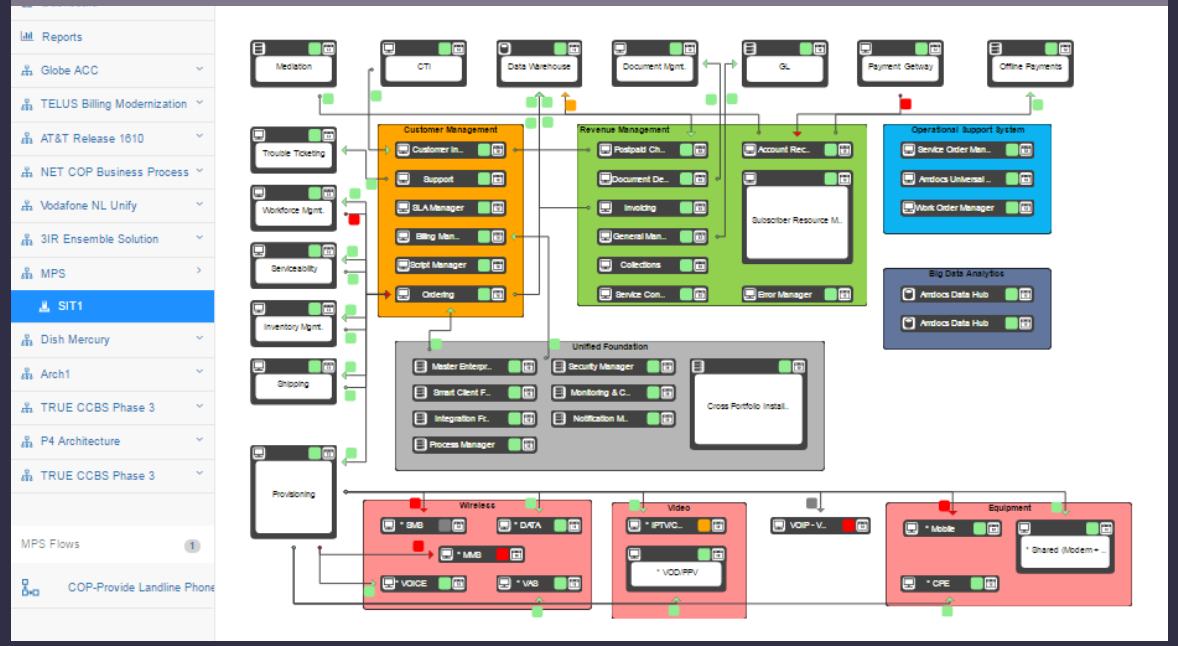
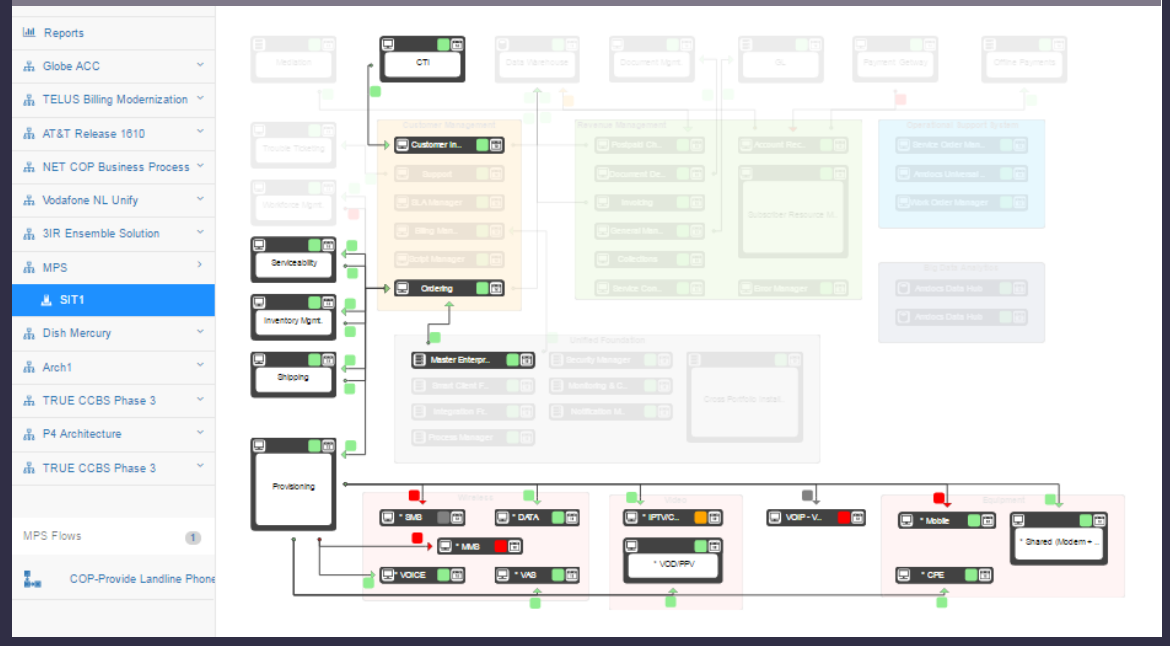
# A-TEAM Environment Planner for an MTV

Architecture view in full




MTV View of the Architecture of systems




A-TEAM enables user to highlight applications and interfaces for only those required to test an MTV
It enables a focused sanity view and quick simulator definitions



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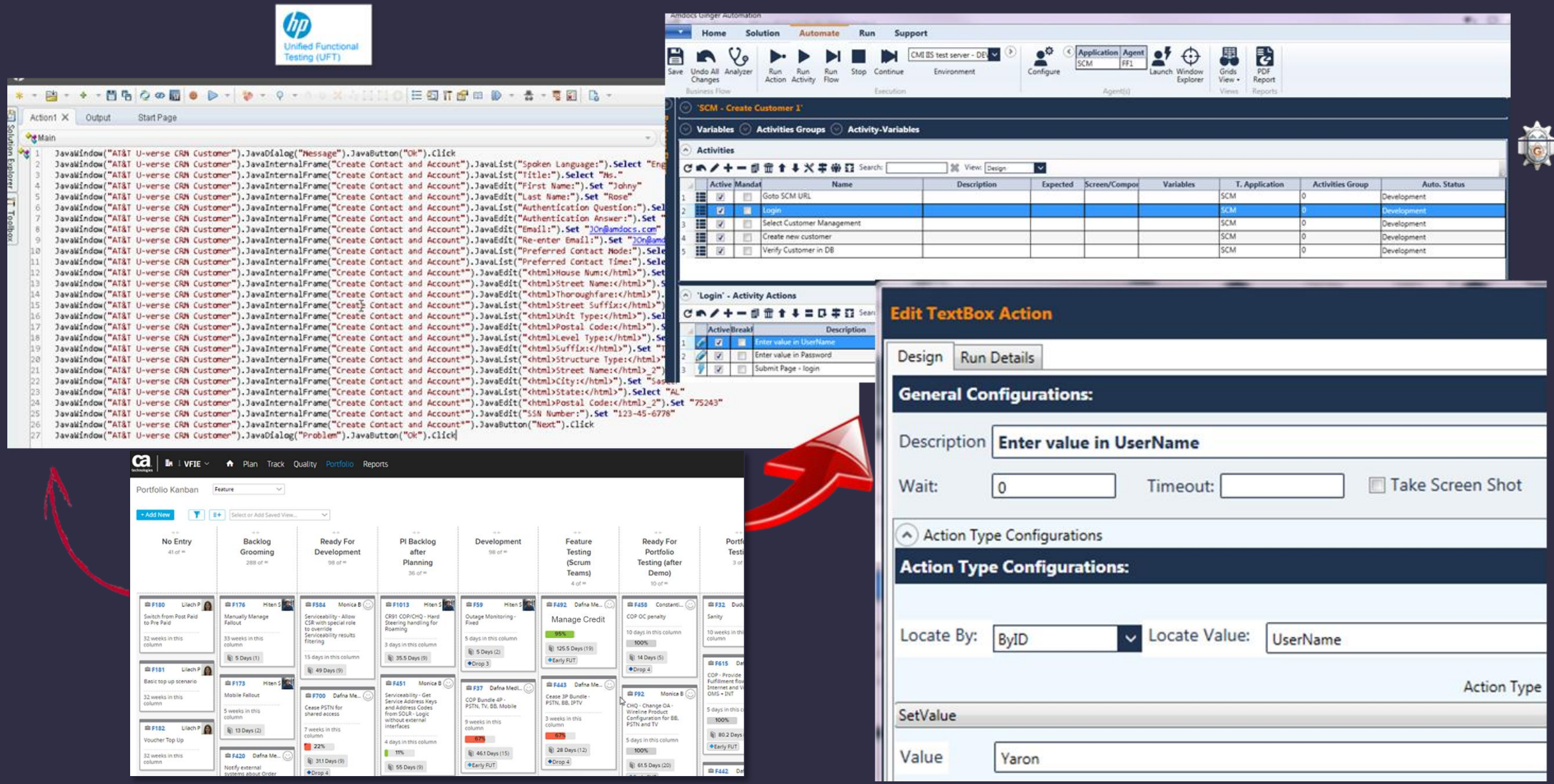




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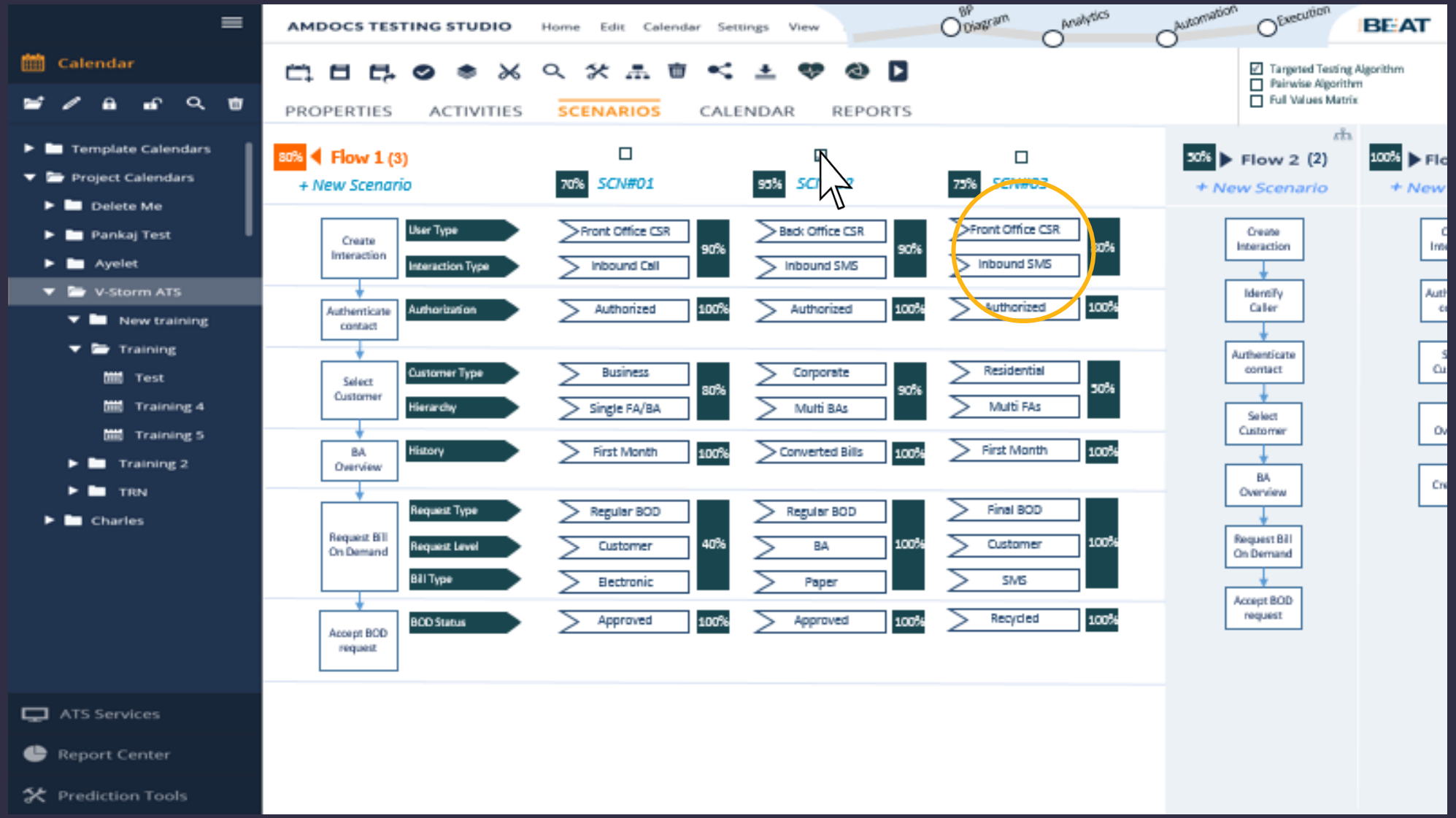




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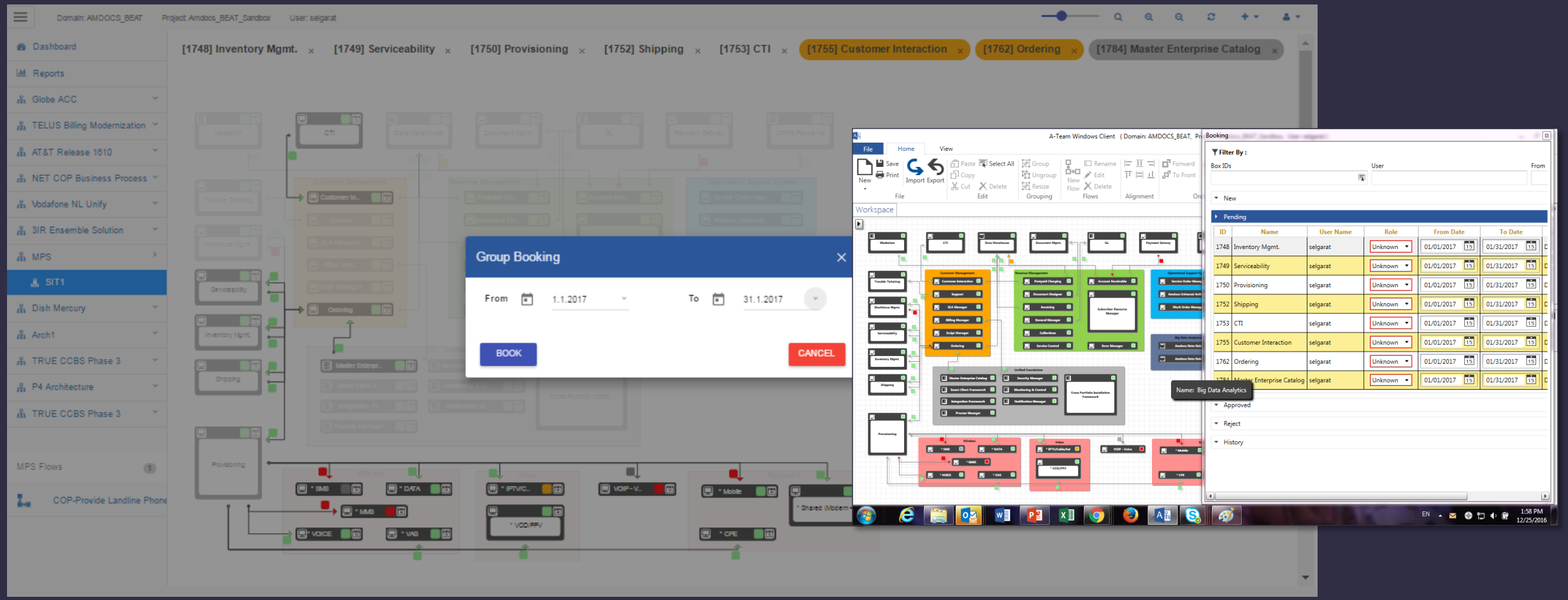
# A-TEAM Environment Booking for an MTV



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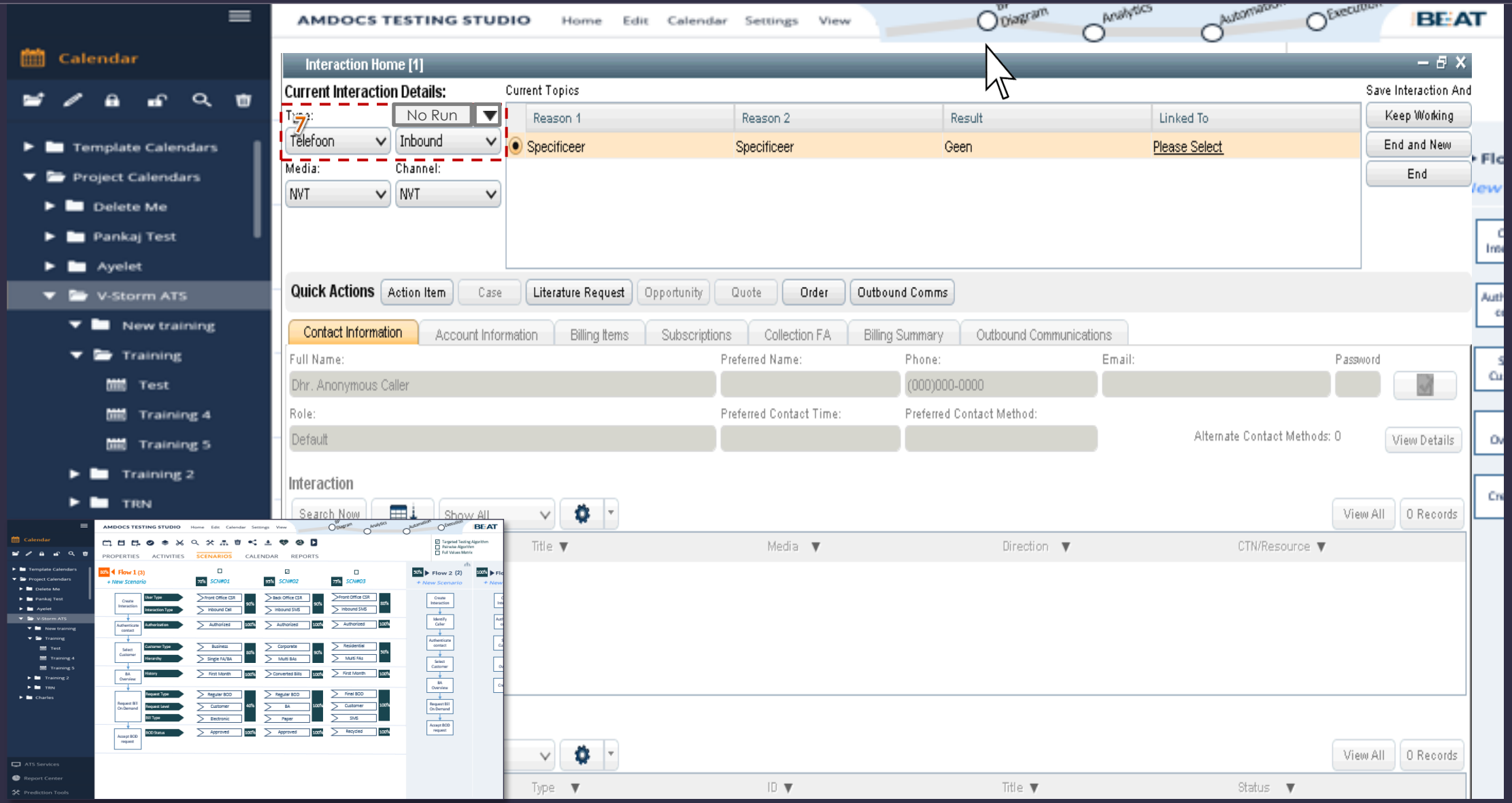




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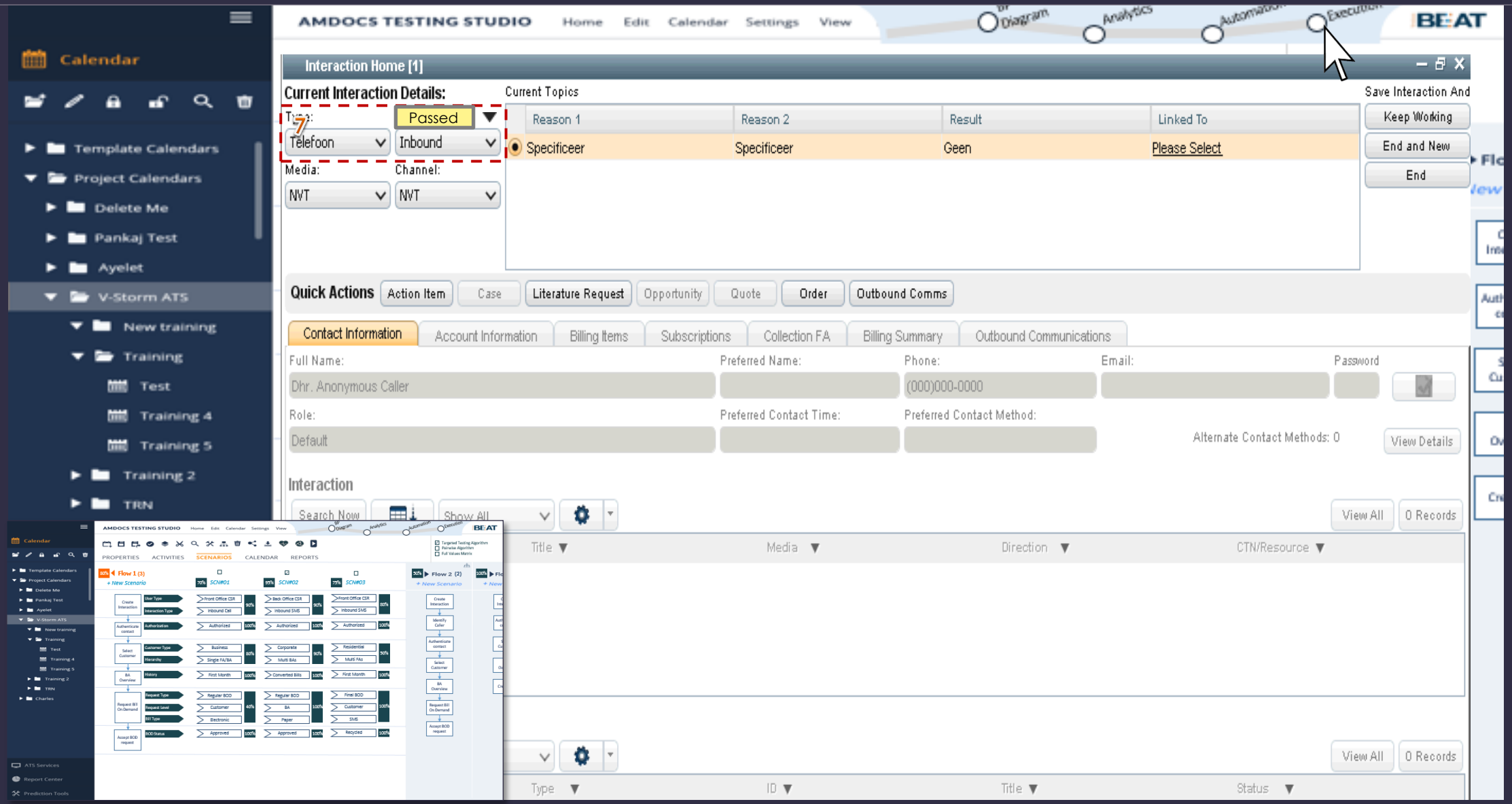




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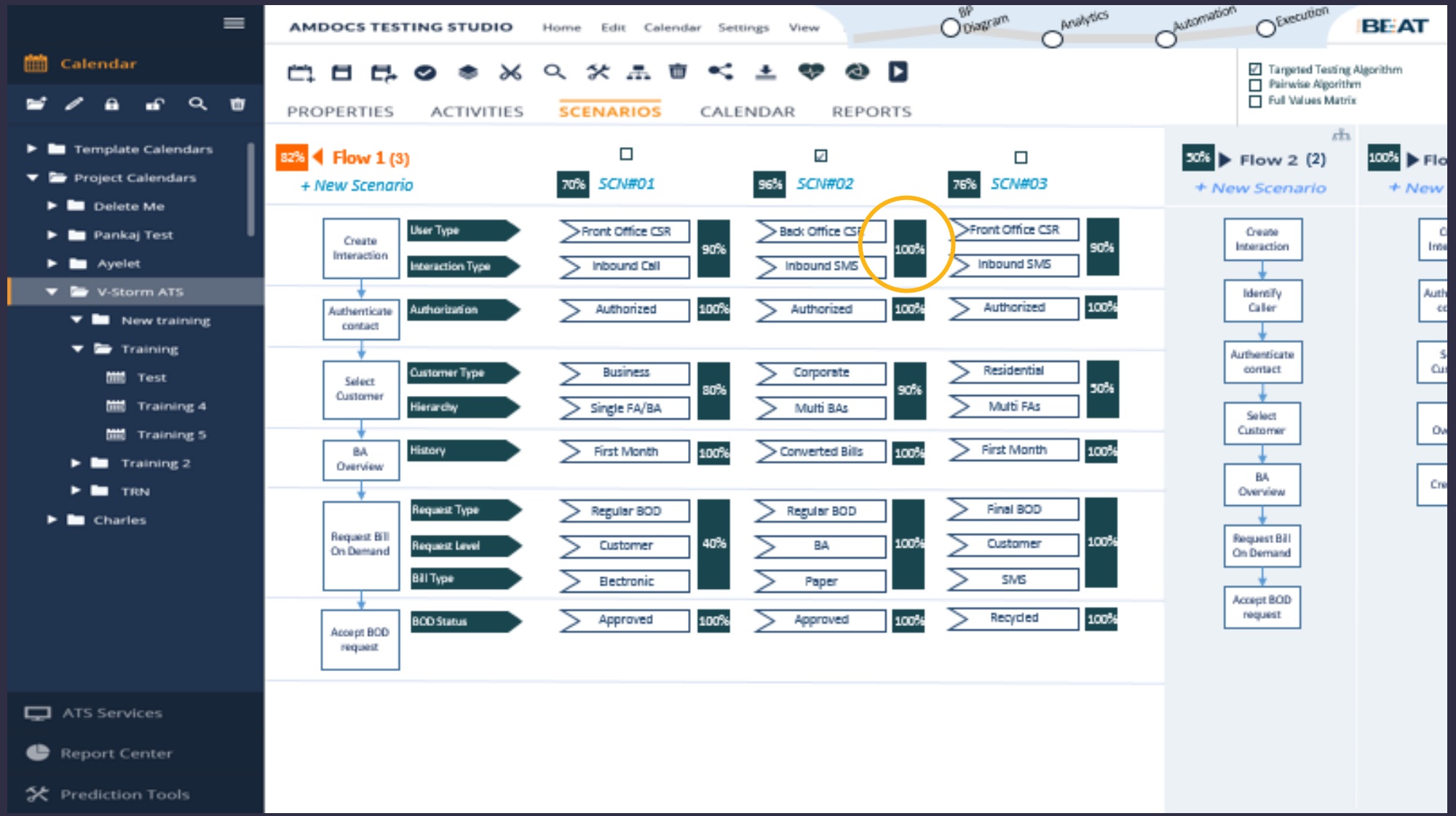




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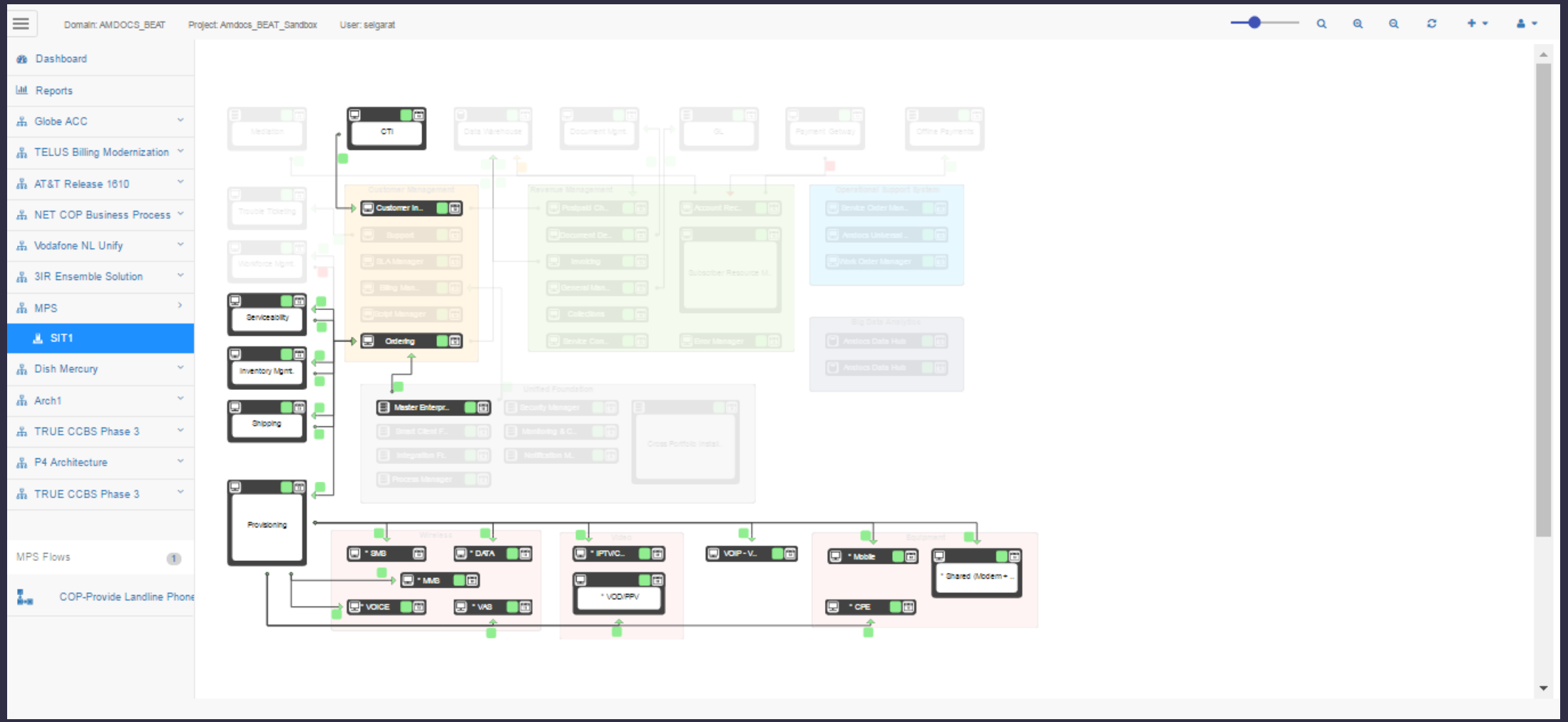
# A-TEAM Marks MTV as “Passed”



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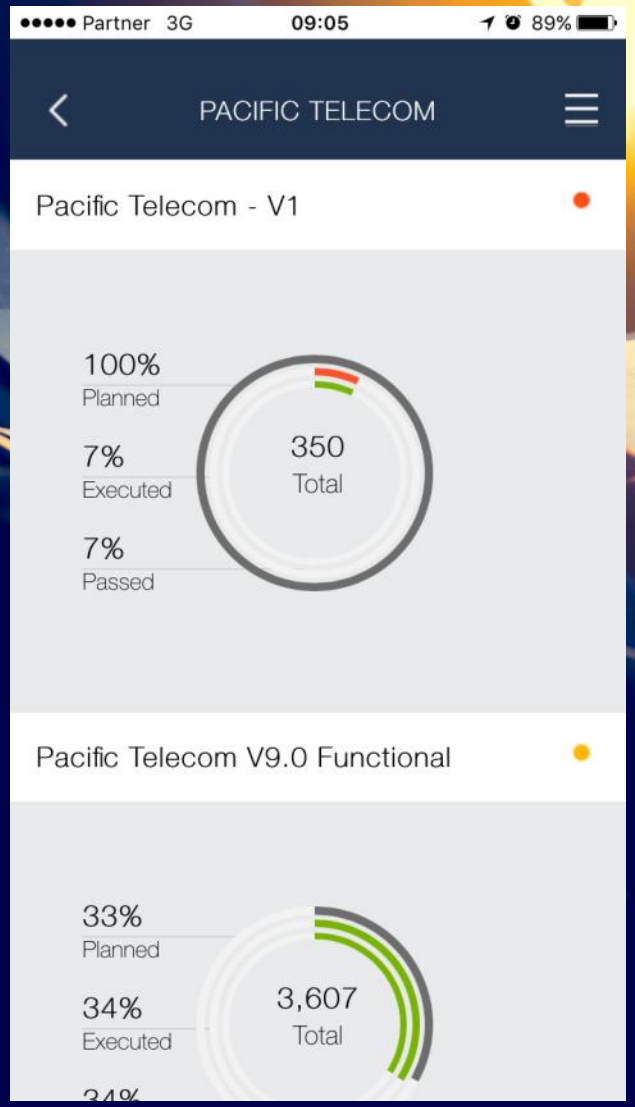
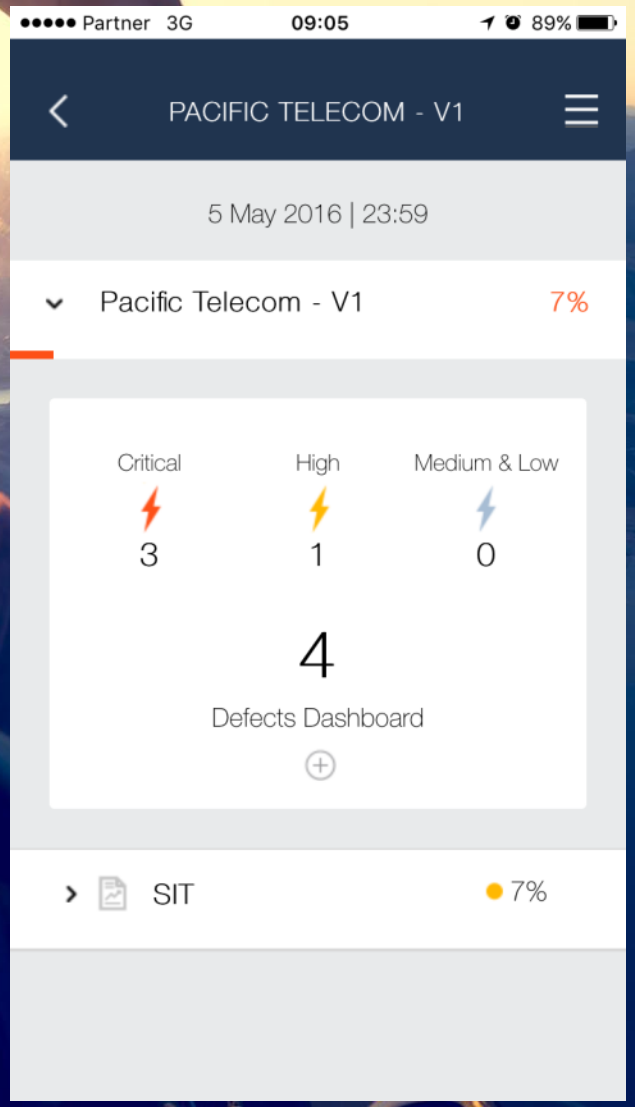
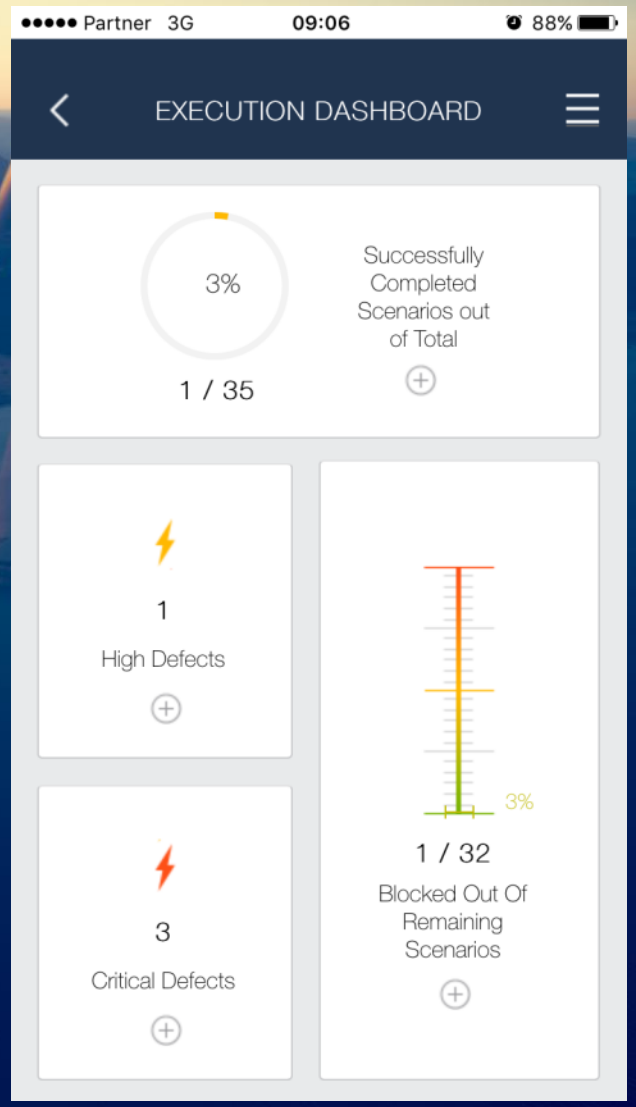

Partner 3G 09:05 89%
PACIFIC TELECOM
Pacific Telecom - V1
100%
Planned
7%
Executed
7%
Passed
350
Total
Pacific Telecom V9.0 Functional
33%
Planned
34%
Executed
3,607
Total


Partner 3G 09:05 89%
PACIFIC TELECOM - V1
5 May 2016 | 23:59
Pacific Telecom - V1
7%
Critical
3
High
1
Medium & Low
0
4
Defects Dashboard
SIT
7%


Partner 3G 09:06 88%
EXECUTION DASHBOARD
3%
1 / 35
Successfully Completed Scenarios out of Total
1
High Defects
3
Critical Defects
3%
1 / 32
Blocked Out Of Remaining Scenarios